

Appl. No. 10/796,649
Amendment
August 21, 2006

Listing of Claims:

1. (currently amended) An apparatus, comprising:
at least one light source for emitting lighting rays, said light source comprising a central optical axis; and
an optics block configured to direct substantially all of said light rays to define a horizontal beam pattern directed from approximately 0° to approximately 60° outboard, away, from a controlled vehicle with respect to said central optical axis, said optics block is further configured to direct substantially all of said light rays to define a vertical beam pattern directed from approximately -8° to approximately 10° with respect to said central optical axis, said optics block comprising at least one collimating portion.
2. (original) An apparatus as in claim 1 wherein said horizontal beam pattern is substantially directed in the range approximately 32° (+ approximately 15°/- approximately 10°).
3. (original) An apparatus as in claim 1 wherein said vertical beam pattern is substantially directed in the range approximately 0° (+ approximately 0°/- approximately 5°).
4. (original) An apparatus as in claim 2 wherein said vertical beam pattern is substantially directed in the range approximately 0° (+ approximately 0°/- approximately 5°).
5. (original) An apparatus as in claim 1 wherein a minimum of approximately 5 candelas are measurable less than approximately 5° selected from the group comprising: horizontally and vertically.

Applicant : Darin D. Tuttle et al.
Appln. No. : 10/796,649
Page : 3

6. (original) An apparatus as in claim 1 wherein a minimum of approximately 4 candelas are measurable less than approximately 10° horizontally.

7. (original) An apparatus as in claim 1 wherein a minimum of approximately 3 candelas are measurable less than approximately 15° horizontally.

Please cancel claim 8 without prejudice

9. (original) An apparatus as in claim 1, said optics block comprising at least one deviator portion.

Please cancel claim 10 without prejudice

11. (currently amended) An apparatus as in claim 9[10] wherein said at least one collimating portion and said at least one deviator portion are substantially aligned with one another.

12. (original) An apparatus as in claim 11 comprising a first collimating portion, a first deviator portion, a second collimating portion and a second deviator portion.

13. (original) An apparatus as in claim 12 wherein said first collimating portion is substantially aligned with said first deviator portion and said second collimating portion is substantially aligned with said second deviator portion.

14. (original) An apparatus as in claim 1 configured to provide a device selected from the group comprising: an indicator, an illuminator and an information display.

Please cancel claims 15-29 without prejudice

Applicant : Darin D. Tuttle et al.
Appln. No. : 10/796,649
Page : 4

30. (currently amended) An apparatus, comprising:

at least one light source for emitting lighting rays, said light source comprising a central optical axis; and

an optics block configured to direct substantially all of said light rays to define a horizontal beam pattern directed from approximately 0° to approximately 60° outboard, away, from a controlled vehicle with respect to said central optical axis, said optics block comprising a first collimating portion, a first deviator portion, a second collimating portion and a second deviator portion.

31. (original) An apparatus as in claim 30 wherein said horizontal beam pattern is substantially directed in the range approximately 32° (+ approximately 15°/- approximately 10°).

32. (original) An apparatus as in claim 30 wherein a vertical beam pattern is substantially directed in the range approximately 0° (+ approximately 0°/- approximately 5°).

33. (original) An apparatus as in claim 31 wherein a vertical beam pattern is substantially directed in the range approximately 0° (+ approximately 0°/- approximately 5°).

34. (original) An apparatus as in claim 30 wherein a minimum of approximately 5 candelas are measurable less than approximately 5° selected from the group comprising: horizontally and vertically.

35. (original) An apparatus as in claim 30 wherein a minimum of approximately 4 candelas are measurable less than approximately 10° horizontally.

36. (original) An apparatus as in claim 30 wherein a minimum of approximately 3 candelas are measurable less than approximately 15° horizontally.

Applicant : Darin D. Tuttle et al.
Appl. No. : 10/796,649
Page : 5

Please cancel claims 37-41 without prejudice

42. (currently amended) An apparatus as in claim 30[41] wherein said first collimating portion is substantially aligned with said first deviator portion and said second collimating portion is substantially aligned with said second deviator portion.

43. (original) An apparatus as in claim 30 wherein said optics block is further configured to direct substantially all of said light rays to define a vertical beam pattern directed from approximately -8° to approximately 10° with respect to said central optical axis.

44. (original) An apparatus as in claim 30 configured to provide a device selected from the group comprising: an indicator, an illuminator and an information display.

45. (original) An apparatus as in claim 30 configured as a rearview mirror assembly comprising a stationary housing, said stationary housing comprising at least one device selected from the group comprising: an imager, an automatic exterior light control module, a moisture sensor module, a compass sensor, a compass, a speaker, a microphone, a windshield wiper automatic control, a digital signal processor, an automatic defogger control, a collision avoidance control, a lane departure warning module, an electro-optic mirror element control module, a supplemental illuminator module, a photo sensor and a processor.

46. (original) An apparatus as in claim 30 configured as a rearview mirror assembly comprising a mirror housing, said mirror housing comprising at least one device selected from the group comprising: an imager, an automatic exterior light control module, a one moisture sensor module, a compass sensor, a compass, a speaker, a microphone, a windshield wiper automatic control, a digital signal processor, a digital sound processor, a GPS system, a navigation system, an automatic defogger control, a collision avoidance control, a lane departure warning module, an electro-optic mirror

Applicant : Darin D. Tuttle et al.
Appln. No. : 10/796,649
Page : 6

element control module, a supplemental illuminator module, a photo sensor and a processor.

47. (original) An apparatus as in claim 45 further comprising a mirror housing, said mirror housing comprising at least one device selected from the group comprising: an imager, an automatic exterior light control module, a one moisture sensor module, a compass sensor, a compass, a speaker, a microphone, a windshield wiper automatic control, a digital signal processor, a digital sound processor, a GPS system, a navigation system, an automatic defogger control, a collision avoidance control, a lane departure warning module, an electro-optic mirror element control module, a supplemental illuminator module, a photo sensor and a processor.

48. (original) An apparatus as in claim 30 configured as an exterior rearview mirror assembly that swivels such that the light rays are directed in a first direction prior to mirror swivel and another direction subsequent to mirror swivel.

49. (original) An apparatus as in claim 47 wherein said mirror swivels automatically.

50. (original) An apparatus as in claim 30 configured as a rearview mirror and comprising a mirror element comprising a reflective comprising an area through which substantially all of said light rays pass.

51. (original) An apparatus as in claim 50 wherein said mirror element is selected from the group comprising: prismatic and electro-optic.

52. (currently amended) An apparatus, comprising:
at least one light source for emitting lighting rays, said light source comprising a central optical axis; and

Applicant : Darin D. Tuttle et al.
Appln. No. : 10/796,649
Page : 7

an optics block configured to direct substantially all of said light rays to define a vertical beam pattern directed from approximately -8° to approximately 10° with respect to said central optical axis, said optics block comprising at least one collimating portion.

53. (original) An apparatus as in claim 52 wherein said horizontal beam pattern is substantially directed in the range approximately 32° (+ approximately 15° /- approximately 10°).

54. (original) An apparatus as in claim 52 wherein said vertical beam pattern is substantially directed in the range approximately 0° (+ approximately 0° /- approximately 5°).

55. (original) An apparatus as in claim 53 wherein said vertical beam pattern is substantially directed in the range approximately 0° (+ approximately 0° /- approximately 5°).

56. (original) An apparatus as in claim 52 wherein a minimum of approximately 5 candelas are measurable less than approximately 5° selected from the group comprising: horizontally and vertically.

57. (original) An apparatus as in claim 52 wherein a minimum of approximately 4 candelas are measurable less than approximately 10° horizontally.

58. (original) An apparatus as in claim 52 wherein a minimum of approximately 3 candelas are measurable less than approximately 15° horizontally.

Please cancel claims 59 and 60 without prejudice

61. (original) An apparatus as in claim 52, said optics block comprising at least one deviator portion.

Applicant : Darin D. Tuttle et al.
Appln. No. : 10/796,649
Page : 8

62. (currently amended) An apparatus as in claim 61[52] wherein said at least one collimating portion and said at least one deviator portion are substantially aligned with one another.

63. (original) An apparatus as in claim 62 comprising a first collimating portion, a first deviator portion, a second collimating portion and a second deviator portion.

64. (original) An apparatus as in claim 63 wherein said first collimating portion is substantially aligned with said first deviator portion and said second collimating portion is substantially aligned with said second deviator portion.

65. (original) An apparatus as in claim 52 wherein said optics block is further configured to define a horizontal beam pattern directed from approximately 0° to approximately 60° outboard, away, from a controlled vehicle with respect to said central optical axis.

66. (original) An apparatus as in claim 52 configured to provide a device selected from the group comprising: an indicator, an illuminator and an information display.

67. (original) An apparatus as in claim 52 configured as a rearview mirror assembly comprising a stationary housing, said stationary housing comprising at least one device selected from the group comprising: an imager, an automatic exterior light control module, a moisture sensor module, a compass sensor, a compass, a speaker, a microphone, a windshield wiper automatic control, a digital signal processor, an automatic defogger control, a collision avoidance control, a lane departure warning module, an electro-optic mirror element control module, a supplemental illuminator module, a photo sensor and a processor.

68. (original) An apparatus as in claim 52 configured as a rearview mirror assembly comprising a mirror housing, said mirror housing comprising at least one device

Applicant : Darin D. Tuttle et al.
Appln. No. : 10/796,649
Page : 9

selected from the group comprising: an imager, an automatic exterior light control module, a one moisture sensor module, a compass sensor, a compass, a speaker, a microphone, a windshield wiper automatic control, a digital signal processor, a digital sound processor, a GPS system, a navigation system, an automatic defogger control, a collision avoidance control, a lane departure warning module, an electro-optic mirror element control module, a supplemental illuminator module, a photo sensor and a processor.

69. (original) An apparatus as in claim 67 further comprising a mirror housing, said mirror housing comprising at least one device selected from the group comprising: an imager, an automatic exterior light control module, a one moisture sensor module, a compass sensor, a compass, a speaker, a microphone, a windshield wiper automatic control, a digital signal processor, a digital sound processor, a GPS system, a navigation system, an automatic defogger control, a collision avoidance control, a lane departure warning module, an electro-optic mirror element control module, a supplemental illuminator module, a photo sensor and a processor.

70. (original) An apparatus as in claim 52 configured as an exterior rearview mirror assembly that swivels such that the light rays are directed in a first direction prior to mirror swivel and another direction subsequent to mirror swivel.

71. (original) An apparatus as in claim 70 wherein said mirror swivels automatically.

72. (original) An apparatus as in claim 52 configured as a rearview mirror and comprising a mirror element comprising a reflective comprising an area through which substantially all of said light rays pass.

Applicant : Darin D. Tuttle et al.
Appln. No. : 10/796,649
Page : 10

73. (original) An apparatus as in claim 72 wherein said mirror element is selected from the group comprising: prismatic and electro-optic.

74. (new) An apparatus, comprising:

at least one light source for emitting lighting rays, said light source comprising a central optical axis; and

an optics block configured to direct substantially all of said light rays to define a horizontal beam pattern directed from approximately 0° to approximately 60° outboard, away, from a controlled vehicle with respect to said central optical axis, said optics block is further configured to direct substantially all of said light rays to define a vertical beam pattern directed from approximately -8° to approximately 10° with respect to said central optical axis, said optics block comprising at least one deviator portion.

75. (new) An apparatus as in claim 74 wherein said horizontal beam pattern is substantially directed in the range approximately 32° (+ approximately 15°/- approximately 10°).

76. (original) An apparatus as in claim 74 wherein said vertical beam pattern is substantially directed in the range approximately 0° (+ approximately 0°/- approximately 5°).

77. (original) An apparatus as in claim 75 wherein said vertical beam pattern is substantially directed in the range approximately 0° (+ approximately 0°/- approximately 5°).

78. (original) An apparatus as in claim 74 wherein a minimum of approximately 5 candelas are measurable less than approximately 5° selected from the group comprising: horizontally and vertically.

Applicant : Darin D. Tuttle et al.
Appln. No. : 10/796,649
Page : 11

79. (new) An apparatus as in claim 74 wherein a minimum of approximately 4 candelas are measurable less than approximately 10° horizontally.

80. (new) An apparatus as in claim 74 wherein a minimum of approximately 3 candelas are measurable less than approximately 15° horizontally.

81. (new) An apparatus as in claim 74, said optics block comprising at least one collimating portion.

82. (new) An apparatus as in claim 81 wherein said at least one collimating portion and said at least one deviator portion are substantially aligned with one another.

83. (new) An apparatus as in claim 74 comprising a first collimating portion, a first deviator portion, a second collimating portion and a second deviator portion.

84. (new) An apparatus as in claim 74 configured as a rearview mirror and comprising a mirror element comprising a reflective comprising an area through which substantially all of said light rays pass.

85. (new) An apparatus as in claim 83 wherein said first collimating portion is substantially aligned with said first deviator portion and said second collimating portion is substantially aligned with said second deviator portion.

86. (new) An apparatus as in claim 74 configured to provide a device selected from the group comprising: an indicator, an illuminator and an information display.

87. (new) An apparatus, comprising:

at least one light source for emitting lighting rays, said light source comprising a central optical axis; and

Applicant : Darin D. Tuttle et al.
Appln. No. : 10/796,649
Page : 12

an optics block configured to direct substantially all of said light rays to define a vertical beam pattern directed from approximately -8° to approximately 10° with respect to said central optical axis, said optics block comprising at least one deviator portion.

88. (new) An apparatus as in claim 87 wherein said horizontal beam pattern is substantially directed in the range approximately 32° (+ approximately 15° /- approximately 10°).

89. (new) An apparatus as in claim 87 wherein said vertical beam pattern is substantially directed in the range approximately 0° (+ approximately 0° /- approximately 5°).

90. (new) An apparatus as in claim 88 wherein said vertical beam pattern is substantially directed in the range approximately 0° (+ approximately 0° /- approximately 5°).

91. (new) An apparatus as in claim 87 wherein a minimum of approximately 5 candelas are measurable less than approximately 5° selected from the group comprising: horizontally and vertically.

92. (new) An apparatus as in claim 87 wherein a minimum of approximately 4 candelas are measurable less than approximately 10° horizontally.

93. new) An apparatus as in claim 87 wherein a minimum of approximately 3 candelas are measurable less than approximately 15° horizontally.

94. (new) An apparatus as in claim 87, said optics block comprising at least one collimating portion.

Applicant : Darin D. Tuttle et al.
Appln. No. : 10/796,649
Page : 13

95. (new) An apparatus as in claim 87 wherein said at least one collimating portion and said at least one deviator portion are substantially aligned with one another.

96. (new) An apparatus as in claim 87 comprising a first collimating portion, a first deviator portion, a second collimating portion and a second deviator portion.

97. (new) An apparatus as in claim 96 wherein said first collimating portion is substantially aligned with said first deviator portion and said second collimating portion is substantially aligned with said second deviator portion.

98. (new) An apparatus as in claim 87 wherein said optics block is further configured to define a horizontal beam pattern directed from approximately 0° to approximately 80° outboard, away, from a controlled vehicle with respect to said central optical axis.

99. (new) An apparatus as in claim 87 configured to provide a device selected from the group comprising: an indicator, an illuminator and an information display.

100. (new) An apparatus as in claim 87 configured as a rearview mirror assembly comprising a stationary housing, said stationary housing comprising at least one device selected from the group comprising: an imager, an automatic exterior light control module, a moisture sensor module, a compass sensor, a compass, a speaker, a microphone, a windshield wiper automatic control, a digital signal processor, an automatic defogger control, a collision avoidance control, a lane departure warning module, an electro-optic mirror element control module, a supplemental illuminator module, a photo sensor and a processor.

101. (new) An apparatus as in claim 87 configured as a rearview mirror assembly comprising a mirror housing, said mirror housing comprising at least one device selected from the group comprising: an imager, an automatic exterior light control module, a one moisture sensor module, a compass sensor, a compass, a speaker, a

Applicant : Darin D. Tuttle et al.
Appln. No. : 10/796,649
Page : 14

microphone, a windshield wiper automatic control, a digital signal processor, a digital sound processor, a GPS system, a navigation system, an automatic defogger control, a collision avoidance control, a lane departure warning module, an electro-optic mirror element control module, a supplemental illuminator module, a photo sensor and a processor.

102. (new) An apparatus as in claim 87 further comprising a mirror housing, said mirror housing comprising at least one device selected from the group comprising: an imager, an automatic exterior light control module, a one moisture sensor module, a compass sensor, a compass, a speaker, a microphone, a windshield wiper automatic control, a digital signal processor, a digital sound processor, a GPS system, a navigation system, an automatic defogger control, a collision avoidance control, a lane departure warning module, an electro-optic mirror element control module, a supplemental illuminator module, a photo sensor and a processor.

103. (new) An apparatus as in claim 87 configured as an exterior rearview mirror assembly that swivels such that the light rays are directed in a first direction prior to mirror swivel and another direction subsequent to mirror swivel.

104. (new) An apparatus as in claim 103 wherein said mirror swivels automatically.

105. (new) An apparatus as in claim 87 configured as a rearview mirror and comprising a mirror element comprising a reflective comprising an area through which substantially all of said light rays pass.

106. (new) An apparatus as in claim 105 wherein said mirror element is selected from the group comprising: prismatic and electro-optic.